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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/033,338      | 12/28/2001  | Sridhar Gollamudi    | 5-20                | 7159             |

7590 04/20/2007  
Docket Administrator (Room 3J-219)  
Lucent Technologies Inc.  
101 Crawfords Corner Road  
Holmdel, NJ 07733-3030

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| EXAMINER |
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AGHDAM, FRESHTEH N

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| ART UNIT | PAPER NUMBER |
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2611

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 04/20/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                                |                                  |  |
|------------------------------|--------------------------------|----------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/033,338  | Applicant(s)<br>GOLLAMUDI ET AL. |  |
|                              | Examiner<br>Freshteh N. Aghdam | Art Unit<br>2611                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 1/29/2007 have been fully considered but they are not persuasive.

Applicant's Argument: Regarding rejection of claims 2-20 under 35 U.S.C. 101, applicant argues "the USPTO has not set forth a prima facie case of unpatentability. First, the examiner has not identified under which 101 judicial exception the claims fall. Applicants do not believe that the claims fall under any of the judicial exceptions since it is neither an abstract idea, law of nature nor natural phenomena. Note that a principal in the abstract is a fundamental truth. See page 17 of Interim Guidelines. The subject matter of claims 2-20 do not cover a fundamental truth. Second, the examiner has not provided an explanation as to why the claims do not accomplish a practical application."

Examiner's Response: Regarding the argument set forth above, the examiner disagrees with the applicants because in the prior official action the examiner indicated that claims 2-20 are unpatentable because no tangible result disclosed for this method in claim 2 since claim 2 contains only one step of adjusting the first channel condition threshold by the first variable size step and no tangible result is disclosed for this method (see Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, pages 21-22).

***Claim Objections***

Claims 2-20 are objected to because of the following informalities:

Claims 2-20 are method claims; however, the preamble is directed to an adaptive quality control loop apparatus.

Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 2-20 are rejected as being under 35 U.S.C. 101 because: as to claim 2, the claimed invention is directed to a non-statutory subject matter because as a whole it does not accomplish a practical application. In order to accomplish a practical application, it must produce a: useful, concrete and tangible result." (see Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, pages 21-22) In other words, the tangible requirement does require that the claim must recite more than a 101 judicial exception. It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted see Corning, 56 U.S. (15 How.) at 268, 14 L.Ed. 683. Applicant in claim 2, recites a method, however, there is no tangible result disclosed for this method. Claims 3-20 are dependent on claim 2; therefore, claims 3-20 are rejected for the same reason disclosed above.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2-20 of U.S. Patent No. 7,161,956.

Because the invention of the instant application includes an additional limitation of "an adaptive quality control loop for a rate adaptation based on multiple spreading codes" but the invention of the patent is silent about it. Therefore, the double patenting rejection is an obviousness-type double patenting rejection. Moreover, since the additional limitation is located in the preamble does not carry patentable weight. And also, claim 2 of the patent includes the limitation of "a first variable step" as compared to the instant application's limitation of "a first variable size step". However, when the specification is used as a dictionary to learn the meaning of the phrase in the patent see MPEP chapter

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800, page 800-22 it becomes clear that the phrase "variable step" is meant to be "variable size step" see column 7, equations 7-9. The remaining claims are exact copies of one another.

Claims 2, 4, 10, 11, 15, and 16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 6-7, 9-11, 16, and 17 of U.S. Patent No. 6,915,477. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 6 of the patent includes the limitation of "a first variable step" as compared to the instant application "a first variable size step". However, when the specification is used as a dictionary to learn the meaning of the phrase in the patent see MPEP page section 804, page 800-22. It is clear that the phrase "variable step" is meant to be variable size step see column 7, equations 7-9. The remaining claims are exact copies of one another. Claim 6 of the patent includes additional language that indicates the channel condition threshold is adjusted based upon a packet category in addition to the error detection results. One of ordinary skill would have recognized that voice packets are more tolerable to errors but less tolerable to delay than data packets. It would have been obvious to one of ordinary skill in the art to adjust the thresholds differently depending on the type of packet because of the different requirements and tolerances. Claims 6, 7, 9, 10, and 11 of the patent correspond to claims 2, 4, 10, 15, and 16 of the instant application, respectively. Claims 16 and 17 of the patent both correspond to claim 11 of the instant application. Claim 16 states that the threshold is adjusted up if an error is detected (and inherently, the threshold is adjusted down in the opposite situation, i.e. not error is detected). Claim

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17 states the threshold is adjusted down if no error is detected (and inherently, the threshold is adjusted up in the opposite situation). Claim 11 explicitly states that the threshold is adjusted up if there is an error and adjusted down if there is no error.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4, 7, 10-12, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nanda et al (US 6,584,113), and further in view of Leung et al (US 7,124,193).

As to claims 2, 16, and 19-20, Nanda teaches an adaptive link adaptation method, in which the channel condition threshold is adjusted (i.e. increased or decreased) based on an error detection result using a variable step size (Fig. 5-7; Col. 3, Lines 45-67; Col. 4, Lines 1-50; Col. 5, Lines 1-20 and 49-67; Col. 6, Lines 1-39). The channel condition threshold is adjusted by a variable step size (Col. 3, Lines 45-67), wherein the variable step size is determined using a desired frame error rate (i.e. a desired MCS error rate; Col. 3, Lines 40-49). Nanda teaches that the channel condition threshold is based on the data frame rate (Fig. 5-7). Nanda is not explicit about the channel condition threshold being based on a modulation and coding scheme level

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used in the data packet. Leung teaches an adaptive quality control loop comprising a channel condition threshold that is based on the modulation and coding scheme level used in the data packet transmission (Col. 3, Lines 59-67; Col. 4, Lines 1-18).

Therefore, it would have been obvious to one of ordinary skill in the art to obtain the channel condition threshold based on the modulation coding scheme level as taught by Leung with Nanda since Leung states at column 4, lines 15-18 that such a modification would enhance the error performance at the frame level.

As to claims 4 and 7, Nanda and Leung teach all the subject matter claimed above, except for the desired MCS error rate is based on a bit error rate and/ or block error rate. Nanda teaches that the desired MCS error rate is based on a frame error rate. One of ordinary skill in the art would clearly recognize that estimating level of performance of a communication system using any of the frame, block, or bit error rate is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to employ the block or bit error rate instead of the frame error rate as the desired criterion in order to estimate the level of performance of the system.

As to claim 10, Nanda further teaches that the variable step size is determined based on the desired frame error rate and the frame rate (Fig. 7). Nanda and Leung are not explicit about the desired MCS error rate to be based on a bit error rate and/ or block error rate. Nanda teaches that the desired MCS error rate is based on a frame error rate. Leung further discloses that the adjusted/ selected channel condition threshold (i.e. increased by a step size or decrease by a step size) is based on the data rate (i.e. modulation level (Table IV; Col. 6, Lines 20-41). One of ordinary skill in the art



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would clearly recognize that estimating the level of performance of a communication system using any of the frame, block, or bit error rate is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to employ the block or bit error rate instead of the frame error rate as the desired criterion in order to estimate the level of performance of the system.

As to claim 11, Nanda further teaches that the first variable size step is associated with a first variable size up step and a first variable size down step, the first channel condition threshold being increased an amount based on the first variable size up step if the first error detection result indicates the first data transmission was unsuccessful, the first channel condition threshold being decreased an amount based on the first variable step size down if the first error detection result indicates the first data transmission was successful (Fig. 3 and 5-7; Col. 3, Lines 50-67; Col. 4, Lines 1-4).

As to claims 12-13, Nanda further teaches that the variable step size is determined based on the desired frame error rate and the frame rate (Fig. 7). Nanda and Leung are not explicit about the desired MCS error rate is based on a bit error rate and/ or block error rate. One of ordinary skill in the art would clearly recognize that estimating the level of performance of a communication system using any of the frame, block, or bit error rate is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to employ the block or bit error rate instead of the frame error rate as the desired criterion in order to estimate the level of performance of the system.

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As to claim 15, Nanda further teaches that the ratio between the first variable up step and the first variable down step is based on a desired MCS error rate (Col. 4, Lines 1-4).

As to claim 17, Nanda teaches all the subject matter as recited in claim 2, except for selecting a second MCS level based on an estimation of channel condition between the receiver and transmitter using a table having the adjusted first channel condition threshold. Leung teaches selecting MCS levels based on the corresponding adjusted channel conditions (table III and IV; Col. 6, Lines 1-41).

As to claim 18, Leung further teaches transmitting a different data frame with a different modulation coding scheme level (table III and IV; Col. 6, Lines 1-41).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hamalainen (US 7,027,420) see abstract, column 4, lines 32-63, column 6, lines 21-32.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is 571-272-6037. The examiner can normally be reached on 9:00-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Freshteh Aghdam  
Examiner  
Art Unit 2611

April 4, 2007

  
**KEVIN BURD**  
**PRIMARY EXAMINER**